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ABSTRACT

A discussion of aspectual morphemes in Mandarin Chinese broadens the perspective on aspect to examine its grammar, or the relationship between aspectual and non-aspectual elements, between different aspectual elements, and between the related categories of tense, aspect, and modality. Previous assumptions about Mandarin aspectual markers are noted, evidence of distributional gaps are used to argue for the tense and modality functions of aspectual markers, two kinds of facts about the semantical compatibility between verbs and aspectual markers (situational restrictions and boundedness requirements) are used to illustrate the differentiation of functions of aspectual elements in different contexts, and two kinds of facts about the relationship between aspectual elements (co-occurrence and replacement patterns) are used to illustrate the differences and similarities in functions between these elements and between their variants. In addition, the variation in obligatoriness across contexts is used to argue for the variable extent of grammaticalization for different variants of aspectual elements. Results are summarized and some remaining problems are addressed. Contains 26 references. (MSE)

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# Towards a Grammar of Aspect for Mandarin Chinese

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# TOWARDS A GRAMMAR OF ASPECT FOR MANDARIN CHINESE

Zheng-sheng Zhang

ABSTRACT

The functions of 'aspectual markers' in Mandarin are various, including tense, aspect and modality, and context-dependent. Our conclusion is based on examining the relationship between aspectual markers and verb phrase semantics, between different aspectual elements and that between the related categories of aspect, tense and modality. Distributional gaps in tense and modal environments suggest tense and modality functions. Variation in compatibility with verb phrase semantics in boundedness and situation types reveals semantic variation of markers across contexts. Co-occurrence and replacibility among aspectual elements reveal their similarity and differences in function. Variation in obligatoriness reveals different extents of grammaticalization.

1. INTRODUCTION. The present paper re-examines the thorny problem of aspectual morphemes in Mandarin Chinese. But it proceeds with a new methodological orientation. Past research on Mandarin aspect was largely divorced from grammatical context; it too was narrowly focused on aspect to the exclusion of the related categories of tense and modality. In its insistent attempt to seek invariant meanings, it fails to give due recognition to the many-faceted nature of 'aspectual' markers. Homogenous analyses of limited data lead to paradoxes when more data are brought into the picture; but abstract analyses attempting to cover more data obscure the characteristics of aspectual morphemes in context.

In contrast, the basic strategy of the present research is not to re-analyze the stock examples in isolation but to examine aspect in the broader context of

the grammar of aspect, which studies the relationship between aspectual and non-aspectual elements, between different aspectual elements and that between the related categories of aspect, tense and modality. This strategy is based on the Saussurian belief that the nature of linguistic elements can best be seen in its relation with other elements in the linguistic system and that the search for the elusive 'intension' of aspectual elements can be aided by looking at the 'extension' in which they manifest themselves.

The following kinds of contextual information has been utilized in this paper. Hitherto neglected distributional gaps in terms of tense and modal restrictions suggest that in some contexts the functions of some so-called aspectual elements are not purely aspectual at all. The variation in the compatibility between verb phrase semantics and aspectual elements in terms of boundedness and situation type restrictions reveals the variation in semantics of the same element in different contexts. The co-occurrence and replacibility patterns among aspectual elements point to their similarity and differences in function. The variation in obligatoriness across contexts reveals the different extent of grammaticalization.

In contrast with the implicitness of methodological assumptions and modes of argumentation in much of previous research, in the present paper, specific assumptions will be advanced concerning the interpretation of the above-mentioned contextual information.

Although the paper inevitably points to a modular approach to Mandarin aspect, it does not intend to add to the 'one or many' debates, whose 'either...or' assumption may not be justifiable in itself. On the one hand, a single marker may nonetheless have different contextual variants; on the other hand, as Comrie pointed out (1985), different contextual variants may not be able to be subsumed under an abstract semantic characterization

in terms of necessary and sufficient conditions but may instead be related more loosely as members of a prototype. Even if ultimately there are unifying accounts, adequately characterizing the contextual variants is an important goal in itself.

The major conclusions of the present paper are as follows:

a. *-le, -zhe , -guo* each has contextual variants.

b. *-le, -zhe , -guo* are not always purely aspectual.

c. *-le, -zhe , -guo* may not be equally aspectual.

d. *-le, -zhe , -guo* may simultaneously mark more than one function.

e. *-le, -zhe , -guo's* variants are not grammaticalized to the same extent.

The organization of the paper is as follows.

After this introduction, in section 2, two previous assumptions concerning Mandarin aspectual markers will be made explicit.

In section 3, evidence of distributional gaps will be used to argue for the tense and modality functions of aspectual markers.

In section 4, two kinds of facts about the semantic compatibility between verbs and aspectual markers, i.e. situation type restrictions and boundedness requirements, will be used to illustrate the differentiation of functions of aspectual elements in different contexts.

In section 5, two kinds of facts about the relationship between aspectual elements, i.e. co-occurrence and replacement patterns, will be used to show the differences and similarities in function between these elements and between their variants.

In section 6, the variation in obligatoriness across contexts is used to argue for the variable extents of grammaticalization for different variants of aspectual elements.

In section 7, a summary of the results concerning the functions of *-le, -zhe* and *-guo* and some remaining problems will be presented.

In section 8, a brief recapitulation of the present research orientation and some directions for future research will be indicated.

2. PREVIOUS ASSUMPTIONS. The present paper challenges a rather prevalent but implicit underlying assumption concerning the aspect of Mandarin Chinese, namely, that the aspectual markers *-le, -zhe* and *-guo* are equally and solely aspectual, grammaticalized to the same extent, in all contexts. This is manifested in the following two specific assumptions:

2.1. '*Once an X, always an X*'. This is the assumption of invariance and that of generalizability across contexts. The assumption holds that an aspectual marker has the same function in all contexts and what is true of one context is true of all contexts.

2.2. '*One form, one function*'. This assumption holds that a marker can bear no more than one function in a given context; or, in other words, semantic functions are coded analytically. It does not entertain the possibility that in some contexts a marker can encode the functions of tense, aspect and even modality simultaneously. This assumption is distinct from the invariance assumption in that it concerns the possible functions of a form in a single context whereas the invariance assumption concerns itself with functions of forms across contexts.

The assumptions of 'One form, one function' and 'Once an X, always an X' turn out to be rather untenable, when we examine aspect in context. In the following sections, we will look at a number of facts concerning aspect in

context, including some paradoxes that result from homogeneous approaches, and suggest alternative analyses based on the new modular orientation.

3. DISTRIBUTIONAL GAPS AND TENSE AND MODALITY FUNCTIONS. Outside of Chinese linguistics, many linguists have commented on the relatedness and the difficulty of separating the grammatical categories of tense, aspect and modality, so much so that the term TAM is used to refer to these categories as a whole (Dahl 1985, Givon 1982, Hopper 1982). But the Chinese linguistic literature, with few exceptions, has invariably treated *-le, -zhe, -guo* as aspectual markers. The difficulty with uncovering the tense and modality functions lies in the abstract meanings of these functions and the lack of systematic contrasts exhibited in the language. In this section, we will investigate the possible tense and modality functions of aspectual markers by examining their distributional gaps in tense and modal contexts.

3.1. *The tense function of aspectual markers.* It has almost acquired the status of a truism that Chinese marks aspect, not tense. It is true that *-le* has been analyzed as a marker of 'anteriority' (Shi 1990), which has been considered as relative tense; however, most linguists eschew the earlier, 'naive' notion of *-le* as a marker of past tense (but see Ross 1995). Li&Thompson (1981)'s position is fairly representative. They argue that the verbal suffix *-le* can sometimes occur in future contexts, as the following sentences show:

1) Ta mingtian chi le zao fan jiu zou.
he tomorrow eat LE early rice then go
'He will leave after breakfast tomorrow.'

2) Dao mingnian ta jiu xue le wu nian Zhongwen le.
till next year he then study LE five year Chinese LE
'He will have studied Chinese for five years by next year.'

Therefore *-le* cannot be a past tense marker, *in general*. The 'Once an X, always an X' assumption is seen most clearly in this mode of argumentation.

Once we give up the 'Once an X, always an X' assumption, however, we are free to entertain the possibility that in some contexts, *-le* may mark tense, instead of, or in addition to, aspect. While it is surely difficult to isolate the tense component by looking at *-le's* elusive semantic content alone, a hint of its tense function is nonetheless suggested by its distributional restrictions. Although aspect by definition is independent of tense and therefore should freely combine with it, there are however systematic gaps in their co-occurrence possibilities in Chinese. Despite conventional wisdom, *-le* DOES occur primarily in past contexts. It is obvious that we cannot say:

3) *Ta mingtian chi le zao fan
he tomorrow eat LE early rice

It is important to point out that the perfective aspect, which *-le* is supposed to be a marker of, is not intrinsically tied up to past. In Russian, perfective verb forms are used for future as well:

4) Zdes' i poobyedaemP
here and have-lunch (perfective form)
'We will have lunch here.'

Most previous analyses fail to recognize that the use of *-le* in future context is only possible in limited, definable contexts. One such context is the event sequence type sentences having the form of *V1 le V2*. Another context is the double *le* sentences with a sentential particle *le* at the end. Where *-le* is the sole TAM marker suffixed to the main verb, there can be no future time reference. The Russian example serves as a good contrast, exactly because the perfective form is used in a main verb context with future reference.

We thus conclude that *-le* cannot NOT mean 'past tense', *in general*, either. Thus, when we see that *-le* is restricted to occur in past time in some syntactic contexts, we will interpret it to mean that it indicates past tense, if only in these syntactic contexts. The contextual variation of such restrictions accordingly entails the corresponding variation in function.

We want to make clear that the tense function we attribute to *-le* is really 'past' rather than 'anteriority', the distinction being that between 'absolute tense' and 'relative tense'. If the main verb *-le* indicates past tense, how about the *-le* in *V1 le V2* sentences and double *le* sentences, where it can occur with future time reference? As will be argued in section 4, where boundedness requirement and situation type restrictions are examined, this variant has a different kind of tense function. Instead of the compound functions [perfective aspect+past tense] of the main verb *-le*, it is a relative tense marker of 'anteriority', possibly without aspectual function.

The differentiation of *-le* into an [perfective+past] variant and a [anteriority] variant has a parallel in *-guo*. The marker of the so-called 'experiential aspect', *-guo* is also restricted to past contexts:

5) *Wo yihou chi guo Riben cai.
I in future eat GUO Japan dish

When *-guo* occurs in future, however, it no longer means 'having the experience of':

6) Wo mingtian chi guo fan jiu zou.
I tomorrow eat GUO rice then go
'I will leave after the meal tomorrow.'

The *-guo* here rather is a verbal complement having the meaning of 'finish'.

To make our mode of reasoning explicit, we will adopt the following interpretive assumption:

Restriction to particular tense should be interpreted
as the marking, if only concomitantly, of the same tense.

In his discussion of the role of tense in Chinese, Chen (1988) seems to have used the same assumption. He cites the restriction on the co-occurrence of *-le* and verbal reduplication to past contexts and concludes that *-le* in such a context indicates past tense. The same assumption allows us to conclude that the restriction to past tense is more pervasive than that.

We should hasten to add, however, that what we have said in no way implies that *-le* is not an aspectual marker but a full-fledged past tense

marker. That would be adhering to the same assumption of 'One form, one function'. We are therefore in complete agreement with two analyses that do accord tense status to *-le*: Comrie 1976 agrees with and quotes Jaxontov 1957 as saying that the verbal suffix *-le* in Mandarin is a mixed tense-aspect marker. Therefore, *-le* cannot mark past tense across the board for all verbs. Due to the situation type restrictions on the perfective aspect, we will not expect *-le* to be used for verbs like *shi* 'to be', *dengyu* 'be equal to' even for past tense. So despite what has been said above about the tense function of *-le*, Chinese is still different from English, which has an independent system of tense applicable to all verb types.

While both the 'anteriority' analysis for *-le* (Shi 1990) and the 'past tense' analysis (Ross 1995, as distinct from 'anteriority' as relative tense ) are found in the literature, both Shi (1990) and Ross (1995) are homogeneous analyses while the present paper opts for a modular solution. Shi (1990) is interested in giving a unified analysis not just for verbal suffix *-le* but for any *le*. He concludes that *le* is in all cases a marker of 'anteriority', the variation in meaning explainable on the basis of the interaction between situation types and the 'anteriority' meaning of *le*. While the 'anteriority analysis' is certainly correct for the variant occurring in contexts like *V1 le V2*, given our distributional facts presented here and in later sections, it is doubtful that such an analysis can be applied to all cases of *le*, or even the majority cases of it. Ross (1995) challenges the traditional position and argues that *-le* is not just aspectual but denotes the temporal relationship of tense by being both an anteriority marker and an absolute past tense marker. She seems to put more emphasis on the similarity rather than the difference between the two kinds of tenses. And by staying at a fairly abstract level she achieves a

homogeneous solution at the expense of obscuring the differences between the different *-les* as shown in our data.

3.2. *The modality function of aspectual markers.* As mentioned earlier, the three grammatical categories of aspect, tense and modality have been found to be intimately related. Since we argue that aspectual markers can express tense meanings, the natural question at this point is whether they can express modality meanings as well. There is another reason for us to be concerned with the issue of modality. Although Chinese grammatical descriptions, both contemporary and traditional, utilize the notion of *Yuqi Ci* 'mood particle', little attempt (but see Pulleyblank 1992) has been made to interpret such a notion in terms of the cross-linguistic, universal category of modality.

What is modality? Lyons (1977) defined modality as 'opinion or attitude of speaker towards proposition'. Necessity, possibility, obligation, permission, illocutionary forces of speech acts and various sentence types have all been included as modal notions. In terms of means of expression, the broad semantic notion of modality is variously realized morphologically as mood, syntactically as adverbs, modal verbs and sentence particles.

The sentential particles in various Chinese languages, called 'yuqi ci' in Chinese linguistic literature, seem to express modality notions. For example, the sentential particle *le*, which is distinct from the verbal *-le* and has been analyzed as a marker of 'current relevant state' and the 'perfect' (Li&Thompson 1982), clearly has usages that cannot be reduced to such temporal notions of 'change of state' or 'perfect':

7) Zhe bian shi Luzhen le. (Lu Xun: Guxiang, 'Hometown')
this then be Luzhen LE
'This, then, is Luzhen.'

8) Na jiu shi yuyan de bianhua le. (HXWZ magazine)
that then be language DE change LE
'That, would be the change of language.'

The *le* here contributes nothing to the truth-conditional semantics of the sentences. It seems rather to serve the function of highlighting the speaker/writer's words, a function not unrelated to Lyon's definition of modality.

The perfective verbal suffix *-le* seems to have the modal function as well. The example below seems hard to accommodate in a perfectivity analysis:

9) Zheci chenggong tixian le xin jingji zhengce de zhengque xing.
this time success show LE new economy policy DE correct ness
'This success shows the correctness of the new economic policy.'

The use of the present tense in the English translation, rather than the past tense normally used to render perfective aspect, is instructive. The use of *-le* here is not to indicate that the situation described here is viewed in its totality (perfective) or with reference to the internal stages (imperfective); it seems rather to emphasize the reality of the situation.

Considered in isolation, the presence of 'modality' meaning in such cases is indeed elusive. But as in the search for the tense meaning of *-le*,

distributional gaps again provide us with evidence of the modality function of *-le*. Unlike perfectivity in Russian that can occur in most modal contexts, including indicative, imperative, clausal, infinitival, positive and negative contexts, the verbal suffix *-le* in Mandarin is variously restricted to occur only in certain modal contexts, depending on the syntactic context. When attached to main verbs, *-le* does not occur in negative, modal and imperative contexts:

10) *Ta mei chi le yi wan fan.
he not eat LE one CL rice

11) *Ni dei chi le yi wan fan.
you should eat LE one CL rice

12) *Qing chi le yi wan fan.
please eat LE one CL rice

It may be objected that *-le* does occur in such contexts, as the following sentences (brought to my attention by Kuoming Sung) testify:

13) Wo mei neng hui le ta.
I not able ruin LE he
'I was not able to ruin him.'

14) Ni dei hui le ta.
you must ruin LE he
'You much ruin him.'

15) Hui le ta!
ruin LE he
'Ruin him!'

But the *-le* in the above three sentences can all be replaced by the verbal complement of *diao* 'drop' while those in (10-12) cannot. Therefore, the *-le* here seems to be a lexical verbal complement. This variant of *-le* clearly is not restricted to modal contexts. As a matter of fact, this variant is not restricted to past tense either. Examples (13-15) not only do not pose as counterexamples to the distributional restriction of *-le*, they also support our contention that there are different variants of *-le* that differ either in TAM function or grammatical status or both.

The notion of perfectivity is not inherently incompatible with modal contexts. Note that in Russian, perfectivity is not restricted in this way (p=perfective):

16) Vi paluchiliP moyo pis'mo?---Nyet, ni poluchilP.
you receive(p) my letter no not poluchi(p)
'Did you receive my letter?' 'No, I did not.'

17) Etu knigu nado sdat'P vovremya.
this book have to return(p) in time
'You must return this book in time.'

18) OstanoviteP trolleybus!
stop(p) bus
'Stop the bus!'

When *-le* is attached to the first verb in an event sequence type of sentences, the restriction to non-modal contexts is no longer applicable. So all of the following sentences are fine:

19) Ta mei chi le fan jiu shuijiao.
he not eat LE rice then sleep
'He did not go to sleep right after eating.'

20) Ni dei chi le fan jiu zou.
you should eat LE rice then go
'You should go right after eating.'

21) Qing chi le fan zai qu.
please eat LE rice then go
'Please go after eating.'

A similar pattern can be observed with *-guo*. When attached to the main verb, it cannot occur within the scope of a modal verb nor in an imperative sentence. So we can say none of the following sentences:

22) *Ni dei chi guo Riben cai.
you must eat GUO Japan food

23) *Qing chi guo Riben cai.
please eat GUO Japan food

When *-guo* is attached to the first verb in event sequence type sentences, the restriction does not apply:

24) Ni dei chi guo fan zai zou.
you must eat GUO food then go
'You must go after eating.'

25) Qing chi guo fan zai zou.
please eat GUO food then go
'Please go after eating.'

The *-guo* no longer has the 'experience' meaning but the 'finish' meaning instead. It is therefore a distinctly different *-guo*.

There is also an imperfective parallel with *-zhe*. When attached to the main verb, it cannot occur within the scope of a modal verb:

26) *Ta neng chi zhe fan ne.
he can eat ZHE rice NE

But attached to the first verb in a *V1 zhe V2* type sentence, *-zhe* can occur there:

27) Ta neng chi zhe fan kan dianshi.
he can eat ZHE rice watch T.V.
'He can watch TV while eating.'

To summarize, in some syntactic environments, *-le* , *-guo* and *-zhe* are all restricted to occur in only certain modal contexts; but in some other environments, such restrictions are lifted.

An interesting difference among *-le*, *-zhe* and *guo* emerges concerning their ability to occur in modal contexts. *-le* seems to be the most restricted. In main clauses, it does not occur in negative, modal verb or imperative contexts. *-guo* seems to be less so, occurring in negative but not in modal verb and imperative contexts. *-zhe* seems to be the least restricted, able to occur in both negative and imperative but not modal verb contexts:

| | -le | -guo | -zhe |
|---|---|---|---|
| negative | - | + | + |
| imperative | - | - | + |
| modal verb | - | - | - |

To generalize, we interpret the distributional gaps concerning modal contexts in the following way:

> Restriction of a marker to a particular modality should be interpreted as the marking, if only concomitantly, of the same modality.

Thus, when we see that *-le, -zhe* and *-guo* as suffixes to main verbs are all restricted to occur in certain modal contexts , we say that they indicate these modalities such as 'realis' and 'indicative' in this syntactic environment. The contextual variation of such restrictions accordingly entails the corresponding variation in function. A recurring pattern we have been observing with respect to the distributional restrictions of *-le , -zhe* and *-guo* is that when they are not attached to main verbs, they consistently exhibits exceptional behavior. We would have to say that in this context, *-le , -zhe* and *-guo* have different functions. The different extents among *-le, -zhe* and *-guo* in their ability to occur in modal contexts can also be interpreted as different extents in having modal meaning. From the data above, it seems that *-le* has the most modal meaning while *-zhe* has the least with *-guo* in between.

Before we end this section, we need to point out that there has been dissatisfaction with the perfective analysis of *-le*, especially with its 'completive' interpretation. Some recent analyses treat *-le* as a marker of *shixian* 'realization/reality' or 'fact' (Liu X.N 1988; Shi Y.Z 1990; Hsiao Y.C 1992), which we interpret as more like an instance of modality rather than perfective aspect. Common to all these analyses but different from the present paper, though, is their assumption of invariability and the attempt to give a homogeneous analysis to *-le*. Such abstract analyses manage to accommodate the non-temporal uses of *-le*, at the expense of the failure to characterize the different variants and the aspect and tense functions of *-le* adequately.

4. VERB PHRASE SEMANTICS AND ASPECTUAL MARKERS. One contextual factor, which can help reveal the semantic character of an

aspectual marker, is the kind of verb phrases it can combine with. Admittedly, the semantics of the verbal phrases is independent from that of the aspectual markers applied to them. That is why the same verbal phrases can take different aspectual markers. But there are also mutual constraints between verb phrases and aspectual markers. On the one hand, verb phrase types restrict the range of aspectual choices. A punctual event such as *si* 'die' cannot take the durative aspectual marker *-zhe*; a temporally unrestricted verb like *shi* 'to be' or *dengyu* 'be equal to' will not be able to take a perfective marker *-le*, which views an event in its totality, hence as necessarily temporally bound. Conversely, from the kind of verb phrases it takes, we can also get to know the aspectual characteristics of an aspectual marker. If the restriction on verbal types for a given marker is different, in some context than in others, we can infer that the marker's meaning and function is different in this context.

4.1. *Situation type restrictions.* The situation type, denoted by the verb and its various associated elements, is responsible for the temporal characteristics of a sentence. It is well-known that certain aspectual markers are compatible with only certain situation types; it is much less known, however, that such constraints are also subject to contextual variation. Let us first look at *-le*. As a perfective marker, it is thought to be incompatible with the stative verb *you* 'to have':

28) *Ta you le (yi da bi) qian.
he have LE one big sum money

But in an event sequence type sentence, the restriction seems to be relaxed:

29) Ta you le qian jiu he jiu.
he has LE money then he drink
'He drinks when he has money.'

The fact that the verb *you* 'to have' can take *-le* in event sequence sentences means that in such a context the verb becomes a stative verb like *hong* 'red' with inchoative properties and that the *-le* becomes an anteriority marker of relative tense.

The opposite is true of *-guo*. As an experiential marker, it is totally compatible with *you*:

30) Ta you guo (yi da bi) qian.
he have GUO one big sum money
'He once had (a lot of) money.'

But in an event sequence type of sentence, where *-guo* can occur with verbs such as *chi* 'eat', *you* cannot be used:

31) Ta chi guo fan jiu zou.
he eat GUO rice then go
'He will leave after eating.'

32) *Ta you guo qian jiu he jiu.
he has GUO money then he drink

That *you* can take *-guo* as a main verb but not when it is the first verb in an event sequence sentence confirms our intuition that in these two different contexts, *-guo* has different senses, of 'experience' and 'completion' respectively.

There is also an imperfective parallel concerning the durative marker *-zhe*. We cannot use *-zhe* with the activity verb *chang* 'to sing' without *ne* at the end:

33) *Ta chang zhe ge.
he sing ZHE song

But the restriction again is relaxed in an *V1 zhe V2* type sentence:

34) Ta chang zhe ge xizao.
he sing ZHE song bathe
'He bathes while singing.'

The neutralization of situation type restriction can be seen in the interesting case of verbs such as *chuan*. We know that the verb *chuan* can have two meanings corresponding to the dynamic 'put on' and stative 'wear' in English. We also know that *chuan* as the main verb taking the durative marker *-zhe* cannot mean 'put on':

35) Ta chuan zhe yifu
he wear ZHE clothes
'He has his clothes on'
'*He is putting on clothes.'

But in a *V1 zhe V2* type sentence, both 'put on' and 'wear' are possible senses of *chuan*, the choice determined mainly by real-world plausibility:

36) Ta chuanzhe yifu youyong.
he wear ZHE clothes swim
'He is swimming with his clothes on',

37) Ta chuan zhe yifu chu men qu.
he put on ZHE clothes out door go
'He is walking out of the door while putting on clothes'.

That *chang* 'to sing' can take *-zhe* in a *V1 zhe V2* sentence may mean that *-zhe* in this context is no longer a durative aspect marker but a marker of the relative tense of simultaneity and hence can occur with an activity verb, with which it otherwise would not be compatible.

To generalize, we hypothesize that:

> Contextual variation in the situation type restrictions for the same marker suggest contextual variation in the semantics of the marker.

4.2. *Boundedness requirement*. Boundedness is related to situation types in that boundedness is a semantic parameter contributing to the differences in situational types. Boundedness refers to the attainment of certain limit in the course of a dynamic event. It is a matter of some controversy whether boundedness is required for the use of the verbal *-le*. According to Shi (1990), the perfective aspect has the two independent components of the

boundedness of situations and relative tense marking of anteriority, which in Chinese is signaled by *-le*. Therefore, boundedness is required for perfective aspect but not required for the use of *-le*. When a situation is bounded, the anteriority marking yields a perfectivity interpretation; but when it is unbounded, an inchoative reading is obtained. For Li&Thompson, however, boundedness is required. A situation is bounded, according to Li&Thompson, if one of the following condition is met:

a. by being a quantified event,
b. by being a definite or specific event
c. by being inherently bounded because of the meaning of the verb
d. by being the first event in a sequence

Neither Shi nor Li&Thompson, however, entertains the possibility that the boundedness requirement is context-dependent.

There is evidence that this is indeed the case. Take Li&Thompson's condition a, for example. They rightly predict that the following sentence is bad because the event is not quantified and hence not bounded:

38) *Wo chi le fan.
I eat LE meal

To Shi's analysis, such a sentence should be acceptable, albeit with an inchoative interpretation of 'I have started to eat.' Unfortunately, such an interpretation is only possible with the sentential *le* at the end, whose separate identity Shi does not allow. But in support of Shi and against

Li&Thompson, the following event sequence type sentence is fine even if the first verbal situation is not quantified and therefore not bounded:

39) Wo chi le fan jiu zou.
I eat LE meal then go
'I will go right after the meal.'

Li&Thompson claims that in the above sentence the first event is in fact bounded by the subsequent event. But we can show that the first event in an event sequence type sentence does not have to be bounded, as seen in the following example:

40) Wo tian hei le jiu zou.
I sky dark LE then go
'I will leave as soon as it gets dark.'

The first event *tian hei* is inchoative and not bounded, having only the initial but not the final end point. It cannot be bounded by the subsequent event either, for the second event of leaving takes place in the state of darkness and not after the termination of the state. To anticipate the objection that the *-le* here is not the verbal suffix but the sentential particle, we can point to the following sentence, which shows the inchoative verbal *-le* distinct from the sentential particle *le*:

41) Tian hei le liang ge zhongtou le.
sky dark LE two CL hour LE
'It has been two hours since it got dark.'

Despite the usual but mistaken association of the 'inchoative/change of state' meaning with the sentential *le*, inchoativity does not have to be expressed by it. To recapitulate, in the *V1 le V2* type of sentence, the suffix *-le* on the first verb can mark inchoativity and therefore be used without boundedness.

Another context in which boundedness is unnecessary is when a sentential *le* is present. The bad sentence of (38) is immediately rendered perfect by the addition of a sentence final *le*:

42) Wo chi le fan le.
I eat LE rice LE
'I have eaten.'

The context-dependency of the boundedness requirement is stronger than what we have shown so far. Not only is boundedness unnecessary in some contexts, misplaced boundedness also leads to ungrammaticality. The quantity expression that would be necessary in a main verb context makes a bad sentence in the event sequence type sentence:

43) *Wo mingtian chi le yi wan fan jiu zou.
I tomorrow eat LE one bowl rice then go

Thus, *-le* sometimes requires boundedness but sometimes not, which may be interpreted to mean that it is sometimes an aspectual marker of perfectivity but sometimes a relative tense marker of anteriority. Although we are still without explanation as to why this is the case, the contrast is a real one.

So we hypothesize that:

Different boundedness restrictions for the same marker in different contexts should be interpreted as contextual variation in the function of the marker.

The contextual dependency of the boundedness requirement is also inadvertently hinted at by the disjointedness of Li&Thompson's set of conditions on boundedness. Note particularly that condition d concerning the boundedness of first events in event sequences is quite different from all the others in not mentioning the semantics of the verb phrase. It seems that what Li&Thompson has done, in including d as a condition for boundedness, is in effect indulging in a bit of circular reasoning: i.e. boundedness is required for the use of *-le*; and if *-le* is used, there must be boundedness. Otherwise, the context that condition d is designed for would prove to be a counterexample to the requirement that boundedness is necessary for the use of *-le*.

5. RELATIONSHIP BETWEEN ASPECTUAL ELEMENTS. In this section, we examine the relationship between aspectual elements in order to see more clearly the similarity and differences between them. Two kinds of facts will be looked at, namely, cooccurrence and replacement patterns.

5.1. *Syntagmatic co-occurrence.* Co-occurrence possibilities can tell us much about the differentiation of function between the co-occurring elements. Co-occurrence is admittedly a pre-theoretical notion, which may include both linear precedence and immediate dominance, not to mention scope

relationships. For our present purposes, though, such descriptive terminology suffices.

Let us first look at the co-occurrence possibilities between *-guo* and -le. It is obvious that they do co-occur sometimes, as we can say:

44) Wo chi guo le fan jiu zou.
I eat GUO LE food then go
'I will go after eating.'

But *-guo* and *-le* do not coocur all the time. In the following sentence, *-le* absolutely cannot occur:

45) *Wo chi guo le Riben cai.
I eat GUO LE Japan food

The only way for *-guo* and *le* to co-occur is to have a sentential *le* at the end:

46) Wo chi guo Riben cai le.
I eat GUO LE Japan food
'I have had Japanese food. '
(so don't bother to introduce it to me)

When *-guo* and *-le* co-occur, they cannot both be aspectual in the same sense. When they don't, *-guo* and *-le* may have the same kind of function and therefore compete for the same slot. The contextual variation in co-occurrence forces us to entertain a modular analysis of *-guo*. Such an analysis of is supported by the fact that different *-guos* have quite distinct

meanings. When *-guo* and *-le* co-occur, *-guo* does not mean 'having the experience of' but rather 'having passed the final phase of'. That there are more than one *-guo* is not too controversial. Yet this clear case can nonetheless suggest the way to interpret co-occurrence facts in general.

The cooccurrence of -guo and perfectivizing phasal complements such as *wan* exhibits the same variation. On the one hand, we see that they do co-ocur sometimes:

47) Ta conglai mei chi wan guo.
he ever not eat RVC GUO
'He has never finished his food before.'

On the other hand, the following sentence is bad due to their co-occurrence:

48) *Ta chi wan guo jiu zou
he eat RVC GUO then go

It is important to note that semantic compatibility is not the problem here. Obviously, the *-guo* here is not the 'experiential aspect' marker. That would be semantically incompatible with event sequencing. The *-guo* is the 'phasal complement' variety and is thus most compatible with the phasal complement *wan*. Their mutual exclusiveness may exactly be due to their identity in function.

Chen (1988) presented a puzzling fact concerning the cooccurrence of *-le* and the so-called 'tentative aspect' expressed by verbal reduplication. They can co-occur in past contexts, as the following sentence shows:

49) Ta gangcai kan le kan zhei ben shu.
he just now look LE look this CL book
'He took a look at the book a while ago.'

On the other hand, although verbal reduplication and *-le* can occur separately in future contexts, they cannot co-occur there:

50) *Ta mingtian kan le kan zhei ben shu jiu zou.
he tomorrow look LE look this CL book then go
'He will go after taking a look at the book tomorrow.'

Verbal reduplication has been called the 'tentative aspect' by Chao (1968) or 'delimited aspect' by Li&Thompson (1981). But when we see that it co-occurs with *-le* in past contexts, we have to say that they cannot both be aspectual in the same sense. Given the analysis of *-le* in past context as [perfective+past tense], verbal reduplication really should not be taken as a grammatical marker of aspect. On the other hand, the mutual exclusiveness between *-le* and verbal reduplication in future event sequence type sentences may mean that they share the same function there. One possibility is that both the reduplicated part and the *-le* in that context is a lexical phasal complement. Therefore, either can be used for that function but not both.

Now, let's turn to the co-occurrence of the verbal and the sentential le. Under the standard assumption of the distinctness of the sentential *le* from the verbal *-le*, the two should (and indeed do) co-occur and give us the double *le* sentences. However, in none of the following sentences, the sentential *le* can occur :

51) ?Qiangshang gua le yi fu hua le.
wall on hang LE one CL picture LE
'A picture has been hung (/is hanging) on the wall.'

52) ?Ta chuan le yijian xin yifu le.
he put on/wear LE one CL new clothes LE
'He has put on (/is wearing) a new piece of clothing.'

53) ?Qunian lai ta you le hen da de jinbu le.
last year come he have LE very big DE progress LE
'He has had great progress since last year.'

54) ?Zheci chenggong tixian le xin jingji zhengce de zhengque xing le.
this time success show LE new economic policy DE correct ness LE
'The success shows (/has shown) the correctness of the new economic policy.'

Now, what does the non-co-occurrence of verbal *-le* with sentential *le* mean? One reasonable interpretation is that the verbal *-le* there already have the 'current relevant state' or 'perfect' meaning of the sentential -le, in addition to its perfective meaning. If this is true, then the traditional correlation of the distinct functions of the two *le*s with their syntactic positions cannot be maintained.

To generalize, we assume that:

> If two markers co-occur, they cannot be marking the same TAM (tense, aspect and modality) function.

Two co-occurring markers indicating the same TAM function would require more than one slot for a single function, which is unmotivated from a cross-linguistic perspective. In addition, semantically, they have to have either the same or different value specification with respect to the TAM function. Either case would not be felicitous: two co-occurring markers having the same specification for the same function would be semantically redundant; two co-occurring markers having different specifications for the same function would be uninterpretable. If we take aspect to be 'view of the temporal structure of event' (Comrie 1976), then it does not make sense to have different views of the temporal structure of the same event simultaneously.

But if two markers cannot co-occur, they may or may not have the same function. They may have the same TAM function hence compete for the same slot. In addition, they may have different specification for the function. This is the reason for the non-co-occurrence of the markers of perfectivity and imperfectivity. They may also have the same specification. Apart from the ill-formed sequence of **wan guo* mentioned earlier, there is also the fact that in imperative sentences the phasal complement variant of *-le* and the lexical complement of *diao* can both occur alone but not together:

55) *Chi diao le na wan fan!
eat RVC that bowl rice

On the other hand, non-co-occurring elements may not have the same TAM function but conflicting semantics prevent them from co-occurring, such as the case of past tense and irrealis modality.

Therefore, it is co-occurrence rather than non-cooccurrence that is more revealing of the TAM functions of particular markers.

Some may object to our interpretative assumption concerning co-occurrence and point to the combination of the 'perfect' with other aspects in English as evidence of the possibility of co-occurring aspects. There are indeed sentences such as *He has been working for an hour*, which shows 'perfect' in combination with the progressive aspect. Our response is that 'perfect', as Comrie (1976) pointed out, is very different from other aspects in that it is not concerned with the internal temporal structure of events. As he pointed out, some linguists do not even consider perfect to be a category of aspect. Dahl (1985) also seems to accord a special status to 'perfect'.

The present assumption concerning co-occurrence is only valid for grammaticalized TAM markers and not TAM elements in general. As was pointed out in Bonnick (1991), aktionsarten elements, which are lexical aspectual elements, can iterate; 'we can in theory endlessly recursively pile modifier upon modifier to indicate ever subtler shadings of meaning'; so we can have *run home* and *finish running home* and *begin to finish running home*. We know that aspectual elements of different grammatical status do co-occur in Chinese too, for example lexical resultative complement (RVC) and perfective *-le*.

Distinctness or similarity in function is only the first step in deciding the specific function of a grammatical marker. The latter task can be aided by additional cross-linguistic generalizations concerning the ordering between TAM elements. We will assume that when TAM functions are analytically coded, the fixed order between co-occurring elements is consistent with the one suggested by Bybee (1985) and others as a possible language universal. That is, aspect is closest to the verb and modality is the farthest from it, with

tense in the middle. We might add that lexical resultative verb complements (RVC), which contribute to the aspectual characteristics of verb phrases, are even closer to the verb than grammatical aspect. We can then use this template to predict the functions of co-occurring elements. Even when one marker can encode more than one functions, i.e. non-analytically, it will encode those functions that are closer together on the scale of RVC-Aspect-Tense-Modality.

In Mandarin, the ordering between RVCs and markers *-guo* and *-le* is such that RVCs precede these markers; although there is no linear ordering between *-le* and verbal reduplication, the fact that *-le* is infixed points to the precedence of verbal reduplication. The ordering among *-zhe, -guo, -le* and *le* is that *-zhe* precedes *-guo* (when they cooccur on rare occasions ) and *-guo* precedes *-le*, with the sentential *le* having the widest scope. Using the universal template of RVC-Aspect-Tense-Modality, we can predict that when *-guo* and *-le* co-occur, in that order, if *-le* is aspectual, then *-guo* is a RVC.

Before we end this section, it should be pointed out that co-occurrence facts have been used before in the literature, although their interpretation has not been made as explicit as it has been done here. Nor has the observation been made concerning the variability in co-occurrence. For example, Chiu (1993) argues that *-le* is a tense, rather than aspect, marker, based on the possible co-occurrence and hence the necessary differentiation of functions of *-le* and *-guo*, which she assumes to be an aspect marker. She shares with us the same interpretive assumption concerning the co-occurrence facts, but her assumption of invariability leads her to assume without question that *-guo* is always an aspect marker and fails to consider that when *-le* co-occurs with *-guo, -guo* does not mean 'experience' and hence may not be an aspect marker at all. The co-occurrence between *-le* with *-guo* is equally consistent with an

analysis of *-le* as the aspectual marker but *-guo* as a lexical phasal complement. She fails to consider the cases where *-guo* does not co-occur with -le, where *-guo* has the more usual 'experiential' meaning.

5.2. *Paradigmatic relationship between aspectual elements.* When used as heuristic tests, replacement possibilities can also be indicative of the differences in function between aspectual elements. As before, contextual variation is seen here as well.

First, let us examine the replacilibility of *-le*. Although in the imperative context, *-le* can be replaced by a resultative verb complement such as *diao*, in indicative context, *-le* cannot be so replaced:

56) Ba zhe wan fan chi le/diao!
BA this bowl rice eat LE RVC
'Eat up this bowl of rice!'

57) Ta ba zhe wan fan chi le/*diao.
he BA this bowl rice eat LE RVC
'He ate up this bowl of rice.'

The inability to replace *-le* with *diao* in some contexts may mean that *-le* must be different from *diao* either functionally or in meaning in those contexts.

Next, let us look at the replacibility of *-guo*. We cannot replace the *-guo* by *-le* in the following sentence, as the resultant sentence does not have the meaning of the original sentence:

58) Ta chi guo/*le Riben cai.
he eat GUO Japan food
'He has had Japanese food.'

But it is perfectly fine to replace the *-guo* with *-le* in the event sequence type of sentences and double *le* sentences, because the resultant sentences have the same meanings as the original sentences:

59) Ta chi guo/le fan jiu zou
he eat GUO rice then go
'He will go right after eating.'

60) Ta chi guo/le fan le.
he eat GUO rice LE
'He has had his meal.'

The fact that one variant of *-guo*s can be replaced by *-le* and another cannot provides further justification for the distinction of the two variants.

Finally, even *-zhe* and *-le*, marking the imperfective and perfective aspects respectively, are interchangeable in some contexts.

61) Qiang shang gua zhe/le yi fu hua.
wall up hang ZHE/LE one CL painting
'There hangs a painting on the wall.'

But as pointed out by Sung Kuoming (personal communication), only *-le* and not *-zhe* can be used in the following sentence:

62) Qiang shang guaman le/*zhe guohua.
wall up hang full LE nation painting
'The wall is full of Chinese painting.'

The interchangibility between *-zhe* and *-le* in some contexts entails that they overlap in function, namely, the common denominator of 'state' between the 'durative state' meaning of *-zhe* and the 'change of state' and 'resultant state' of *-le*. With a dynamic verb phrase, such a common denominator does not exist anymore.

We interpret the replacement facts thus:

> If a marker cannot be substituted with another one,
> they must not have the same TAM function or the
> same specification for a function.

It is important to highlight the fact that unlike co-occurrence, it is the failure of substitution that assures us of the distinctness in function. The success of substitution provides us with a much less certain result in regard to the identity of function. To wit: even if A can replace B, A does not have to be identical to B in function. A's function may include B, allowable by the possibility of the non-analytical coding of TAM functions. Hence there will be the possibility of asymmetry in replacibility, i.e. A can replace B and yet B cannot replace A.

6. OBLIGATORINESS AND GRAMMATICALIZATION. There is a curious discrepancy in the Chinese aspectual literature. On the one hand, to be consistent with its cross-linguistic status, aspect is widely assumed to be a grammatical category, on a par with tense, modality, person, number and other morpho-syntactic categories. In recent generative literature on Chinese, aspect is also considered part of the INFL. On the other hand, in-depth studies of aspect have mostly focused on the semantic characterization of aspectual markers. This no doubt has to do with the apparent lack of morpho-syntactic structure and inflectional marking in general in Chinese. There is another manifestation of this discrepancy : although in general inflectional categories are systematic and obligatory, in studies of the perfective marker *-le*, though, the difficulty of predicting the occurrence of the aspectual marker often leads one to conclude that the use of *-le* is largely optional, subject to discourse and pragmatic conditions (Liu Y.H. et al. 1983, Chang & Chu 1987, Li Y.X. 1989, Ross 1995)

The present paper poses the question: 'are Mandarin aspect markers grammaticalized?' In doing so, we imply the differentiation of the different senses of 'aspect' as it is used in the literature. In the literature, many lexical and non-lexical elements are referred to as aspectual alike. For example, verb phrases are said to have aspectual properties, as are perfectivizing Resultative Verb Complements (RVCs) such as *wan* and directional complements such as *qilai* . Verbal reduplication has been termed the 'tentative aspect', on a par with the perfective marker verbal suffix *-le*. Are these all aspectual in the same sense? If not, which of these is grammaticalized aspect?

The contextual variation in the functions of aspectual elements leads us to expect that they may be grammaticalized to different extents in different contexts. In this section, we will use the criterion of obligatoriness of

occurrence to distinguish grammaticalized markers from lexical verbal complements. As was mentioned above, one general impression concerning the occurrence of *-le* is that it is very subtle and largely optional. What has been neglected is the fact optionality is context-dependent: in some contexts it cannot be omitted, while in others it can. The judgments are quite robust too. Consider the following:

63) Ta chi le yi wan fan.
he eat LE one CL rice
'He ate a bowl of rice.'

The *-le* cannot be omitted while keeping the meaning intact. But in the following sentence of the event sequence type, the *-le* can surely be omitted:

64) Ta chi wan (le) fan jiu zou.
he eat RVC meal then go
'He will go after eating.'

*-le* can also be omitted if a sentential *le* takes the scope of the whole sentence:

65) Ta xue (le) san nian Zhongwen le.
he study LE three year Chinese LE
'He has studied Chinese for three years.'

The reverse is not true: the omission of the sentential *le* while keeping the verbal *-le* does not produce a synonymous sentence. The pattern that

emerges seems to be that the marker that is of the main verb or takes the widest scope is obligatory in occurrence.

A parallel can be found with *-guo*. In the following sentence, the experiential *-guo* cannot be omitted while maintaining the same meaning;

66) Ta chi guo Riben cai
he eat GUO Japan food
'He has had Japanese food.'

But in the following event sequence type sentence, the phasal complement *-guo* can surely be omitted without any change in meaning:

67) Ta chi (guo) le fan jiu zou
he eat GUO meal then go
'He will go after eating.'

It is therefore patently false that aspectual markers are largely optional, in general. Optionality is context and function dependent too.

We will hypothesize that:

We take obligatoriness to indicate grammaticalization
and optionality as evidence of the opposite.

Furthermore, the contextual variation in the optionality of a marker can only mean that the marker is grammaticalized to different extents in different contexts. Our data indicate that *-le* in main clause contexts is obligatory and hence is a bona fide grammatical marker but the variant in event sequence

sentence is optional and is more akin to the function of a lexical phasal complement. *-guo* exhibits the same variation in optionality and hence the same variation in degrees of grammaticalization.

7. MANDARIN TAM ELEMENTS: A SUMMARY In this section, we will summarize the various findings concerning the markers *-le*, *-zhe* and *-guo*. The remaining problems will also be indicated. For each of the markers, we will list the various distributional facts that suggest the differentiation of the variants and their respective functions.

7.1. *-le*: Various kinds of evidence point to the conclusion that there are at least two variants of the verbal suffix *-le* (not counting the variant that is clearly a lexical complement replaceable by *diao*), in addition to the sentential le. Some of their distributional characteristics are listed below:

| | -le1 | -le2 |
|---|---|---|
| syntactic context | ?main verb | V1__V2, ? |
| tense restriction | + | - |
| modality restriction | + | - |
| strict situation type restriction | + | - |
| boundedness requirement | + | - |
| co-occurrence with RVC | + | + |
| interchangibility with RVC | - | - |
| obligatoriness | + | - |

The remaining uncertainty is that the syntactic environments for *-le1* and *-le2* are still not clear.

The respective functions of the two *-les* are indicated below:

| | -le1 | -le2 |
|---|---|---|
| aspect function | + | - |
| tense function | past | anteriority |
| modality function | + | - |

We hold that *-le2* does not have an aspectual function, due to the lack of boundedness requirement and the relaxed situation type restrictions. Therefore, we are also assuming that the relative tense of anteriority should be regarded as tense rather than aspect.

7.2. *-guo*: Various lines of evidence suggest that there are also two *-guos*:

| | -guo1 | -guo2 |
|---|---|---|
| syntactic context | main verb | V1__V2,? |
| tense restriction | + | - |
| modality restriction | + | - |
| co-occurrence with RVC | + | - |
| replacibility with RVC | - | + |
| obligatoriness | + | - |

As is the case with *-le*, the exact syntactic environments for the variants, especially *-guo2*, need to be investigated. Their respective functions are:

| | -guo1 | -guo2 |
|---|---|---|
| aspect function | ? | - |
| tense function | + | - |
| modality function | + | - |

What is unclear is the role of *-guo1* as an aspectual marker. On the one hand, it seems to be able to fill the same slot as the aspectual marker of *-le*, being unable to co-occur with it. On the other hand, there is an example (due to Fang Yuqing 1992), which show its co-occurrence with the durative aspect marker of *-zhe*: *Ta conglai mei huo zhe guo.* 'He has never been alive', suggesting a differentiation of function from *-zhe*.

| | | |
|---|---|---|
| co-occurrence with *-le1* | - | + |
| co-occurrence with *-zhe* | ? | - |

According to our assumption concerning co-occurrence, either *-zhe* or *-guo* is not an aspectual marker. Apart from its relationship with other TAM elements, the so-called 'experiential aspect' marker *-guo1* also does not seem to fit the definition of aspect as 'view of temporal structure of events'. Being more compatible with stative situations, it has less strict situation type restrictions than *-le* and has no boundedness requirement either. It has been treated as a kind of perfect (Comrie 1976, Dahl 1985), whose status as an aspect is dubious as well.

7.3. *-zhe*: There seem to be two *-zhes* as well, as evidenced by their different distributional properties:

| | -zhe1 | -zhe2 |
|---|---|---|
| syntactic context | main verb | V1___ V2 |
| tense restriction | ? | - |
| modality restriction | + | - |
| strict situation type restriction | + | - |
| obligatoriness | ? | ? |

There are more remaining problems for *-zhe*. First of all, it is unclear whether *-zhe1* is restricted in tense. It seems that it is restricted to the non-future tenses. But even that is the case, it could be a modal restriction, since non-future belongs to the realm of 'realis' whereas future belongs to 'irrealis'. Also, it is not clear at present as to what counts as evidence of obligatoriness. If it is simple omissibility, as it is the case with *le2* and *guo2*, it seems that neither variant is omissible. Their respective functions are:

| | -zhe1 | -zhe2 |
|---|---|---|
| tense function | ? | simultaneity |
| aspect function | + | - |
| modality function | + | - |

The resolution of the issue of the tense function of *-zhe1* depends on the resolution of the tense restriction of *-zhe1* mentioned above. As is the case with the anteriority function of *-le2*, the relative tense function of simultaneity for *-zhe2* should not be treated as aspectual.

8. ASPECT IN CONTEXT: FIRST STEP AND BEYOND. Our rejection of the invariability assumption is a radical departure from previous research. While some of the present proposals have appeared in the literature before, our contention that the functions of TAM elements are context-dependent has not been seriously argued for before. Take *-le* for example. It has been variously analyzed as an aspect marker of perfectivity (Li&Thompson 1981), as a tense marker of 'anteriority' (Shi,. 1990) and past tense (Ross 1995) and as a marker of 'realization' (Liu 1988, Hsiao 1992, Shi, Y. Z. 1992), which we take to belong to the realm of modality. But none of these analyses entertains the possibility that *-le* is all three, albeit in different contexts. Could it be possible that they are paying attention to different parts of the elephant? While they are all partially correct, since they all uphold the invariability assumption, they cannot hope to explain all the data It seems that a modular analysis of *-le* which accommodates its different roles in different contexts is inevitable.

But we have only taken the first step towards the systematic examination of the TAM system of Mandarin in context. But when we start to pay attention to aspect in context, however, a whole new uncharted territory awaits to be explored. In this paper, we have simply described contextual variation without adequate explanation as to why such contextual variation arises. Even in describing contextual variation, we are far from complete. The behavior of aspectual and other TAM elements in clausal structures of different types also remains to be studied. Neutralization in non-finite environments after all has been observed cross-linguistically in quite a few languages (Comrie 1976, Heath 1981). Going beyond the sentence, we have some evidence that the use of aspectual elements such as *-le* is intimately tied up with the dynamics of discourse structure. It is well-known

that *-le* does not occur in *'shi--de* ' sentences, which are not used to advance the narrative story line but rather to provide background information. How does the distinction of old versus new information figure in the use of aspectual markers? Finally, there is also informal observation that the use of *-le* may be affected by genre differences (Li&Thompson 1981; Liu Y.H. et al. 1983, Chu&Chang 1987). There indeed lies a fertile ground ahead to be explored .

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